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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,505	02/05/2002	Hiroyuki Kawano	OKI.304	2766

7590 09/18/2003

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EXAMINER

GEYER, SCOTT B

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 09/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/062,505

Applicant(s)

KAWANO, HIROYUKI

Examin r

Scott B. Geyer

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,7,8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7,8 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1, 2, 3, 4, 7, 8 and 11 in Paper No. 4 is acknowledged.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings submitted by the applicant on 02/05/2002 are acceptable.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5A. Claim 3 recites a resist pattern extending to a "certain distance" from the effective device area into the peripheral area, entirely covering the peripheral area out to the "certain distance" and exposing all parts of the dielectric beyond that "certain distance". Without any further data or specifics in the claim, it is unclear as to what the applicant intends by a "certain distance". For purposes of examination, claim 3 shall be interpreted by the examiner as follows:

the resist pattern is not removed in the central portion of the dielectric layer, i.e. in the area of dielectric material which is not meant to be removed,

and the resist pattern is removed from the edges of the dielectric layer, i.e. in the area of dielectric material that is meant to be removed.

5B. Claim 4 recites all of the limitations of claim 3 above and further recites that the "resist pattern extends substantially 5 micrometers into the peripheral portion area." As stated above, the applicant has not provided enough data or specifics to define the extension from the effective device area and the peripheral area. With no set limitation defining the "certain distance" as stated above, it is unclear to the examiner as to where the measurement of 5 micrometers would be taken, and thus this claim has not been treated further on its merits.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones et al. (6,117,778).

7A. As to claim 1, Jones et al. teach a method of planarizing a dielectric on wafer. Jones et al. teach a dielectric formed over a wafer, a resist applied to the dielectric coating, patterning the resist which removes the resist from a peripheral portion of the wafer, etching the exposed portion of the dielectric in the peripheral

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portion, removing the resist pattern and planarizing the dielectric with a CMP process (se column 2, lines 34-58).

7B. As to claim 2, Jones et al. teach wet etching (column 2, lines 45-47).

7C. As to claim 3, Jones et al. teach a resist pattern applied to a dielectric layer.

The resist pattern is removed from the edges of the wafer (i.e. from the circumferential peripheral portion) which are meant to be etched by wet etching (see column 2, lines 44-47).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (6,117,778).

9A. As to claim 7, Jones et al. teach all the limitations of claim 7 except for a wiring layer on the substrate (wafer). However, Jones et al. do teach that the wafer may be a semiconductor wafer (column 2, lines 34-38). Further, it is notoriously well known in the art of semiconductor manufacturing that semiconductor wafers are fabricated with wiring layers on the surface of the wafers, and it would have been obvious to a person of ordinary skill in the art to manufacture a semiconductor wafer with a wiring layer on its surface so as to provide a means for electrical connection for that wafer to other electronic components.

9B. As to claim 8, Jones et al. teach the dielectric film having an uneven topography with a base level in a plane and the edge exposed part of the dielectric being etched down to the base level (see figures 4A and 4B).

/

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (6,117,778) as applied to claim 1 above, and further in view of Watanabe (5,578,402).

10A. As to claim 11, Jones et al. teach the resist layer exposed and developed (see column 4, lines 40-41). Jones et al. do not specifically teach a 'single lithography exposure'. However, Watanabe teaches a single exposure to make a photo-mask (see abstract). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Jones et al. with a single exposure lithography step as taught by Watanabe so as to simplify the fabricating process and decrease production costs.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (703) 306-5866. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. Email: scott.geyer@uspto.gov

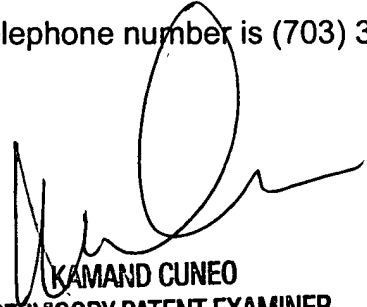
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SBG.

SBG
August 27, 2003



KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800